



# Transportation Decisionmaking: Information Tools for Tribal Governments

## Data Collection and Use

This summary is based on the module “Data Collection and Use,” one of eight produced as part of the series *Transportation Decisionmaking Information Tools* written by the Federal Highway Administration Office of Planning to educate Tribal planners and decisionmakers about the Tribal transportation planning process, and to provide them with program information. The full module can be found on the FHWA web site at:

<http://www.tribalplanning.fhwa.dot.gov>

### What are data?

Data are organized bits of information collected for a specific purpose. Data may be represented by numbers—such as counts or measurements—or it can be represented by words such as people’s opinions or observations. In transportation planning, data can be used to understand the current state of the transportation system and the community’s transportation needs. Planners might also use data to verify an assumption or to determine whether the data support the development of a particular project.

### What are data collection and analysis?

Data collection involves gathering different bits of information. Data collection can be done manually as in traffic counting, or with sophisticated technology such as cameras that can read car license plates. Data collection should always include a method of checking the data quality. This could involve simply looking at the data to see if it is reasonable or it could be more involved such as comparing with data from another source to see if the data are similar or consistent. Data analysis simplifies, organizes, and transforms data into forms that can help make sense of large amounts of complex information. Good analyses are needed to make well-informed decisions.

### How are data used in transportation planning?

Collecting and analyzing data can help transportation and Tribal planners by helping to:

- Identify:
  - Tribal land holdings;
  - Locations with high crash rates;
  - Future economic development areas; and
  - Culturally or historically significant sites.

- Describe:
  - Existing transportation system characteristics such as the number of lanes, location of bridges, and traffic volume;
  - Demographic trends as population growth, the fastest growing segments of the population, and average number of children per family;
  - Fire and police department locations and services; and
  - Transit service routes and ridership.
- Develop a:
  - List of roads for a transportation inventory;
  - List of necessary transportation projects;
  - Prioritized list of transportation projects; and
  - Visual representations of transportation projects such as maps, drawings, or models.

### What data are necessary for developing the long-range transportation plan?

Federal regulations state that the purpose of the long-range transportation plan is to clearly demonstrate a Tribe’s transportation needs and anticipated strategies to meet those needs. The long-range transportation plan guides investment in the transportation system over the next 20 years or more. Strategies included in the long-range transportation plan should address future land use, economic development, traffic demand, public safety, and health and social needs.

To address these issues, the Tribe must have data that answers questions such as: Should the Tribe build new roads to drive economic development? If so, where should the roads be built? How can road safety be improved? What does the community think about sidewalks and bike lanes? Should they be added to the roadway?

Data for answering these questions would include information on demographics, transportation system inventory, transportation system use, physical condition of the system, and system performance. Data analysis combined with projections about the likely changes in future conditions is used to identify and determine the specific transportation needs of the future. The Tribe can then prioritize the needs and develop specific strategies or projects that will address them.

### Where can tribes find data?

Before setting out on a data collection effort, Tribes should look for existing data. This would include:

- Data the Tribe has already collected;
- Data available on the Internet; and
- Data available through various partnerships with other organizations that need similar data.

### How can data be used to tell a story?

There are tools such as geographic information systems that display specified characteristics based on location and visualization software that can generate maps,

drawings, computer-generated simulations, and other graphics that display data so that they are easy to understand. Data integration into these visual displays helps the audience paint a mental picture of the transportation system or project. By modifying the visuals based on proposed changes, the audience can see how different planning decisions might change the story.

### **What is the Transportation Decisionmaking Information Tools for Tribal Governments series?**

The eight modules in the *Transportation Decisionmaking Information Tools for Tribal Governments* include:

1. Introduction to Planning
2. Developing a Long-Range Transportation Plan
3. Developing the Transportation Improvement Program
4. Funding Resources
5. Public Involvement
6. Data Collection and Use
7. Safety
8. Project Prioritization

Figure 1 shows each of the modules and how they relate to each other.

**Figure 1:** Modules in the *Transportation Decisionmaking Tools for Tribal Governments Series*



### **Additional Resources**

Transportation Planning Capacity Building Website:  
<http://www.planning.dot.gov/tribal.asp>

FHWA Tribal Transportation Planning  
<http://www.fhwa.dot.gov/hep/tribaltrans/index.htm>

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